



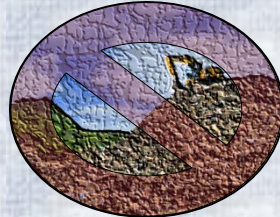
HAWKER®

Headlines Spring 2022 edition

Quick Tips!



Ever wonder where dead batteries end up?
 In a landfill? In a ditch? Not so fast! According to the U.S. Environmental Protection Agency (EPA)...at a **99% rate, lead-acid batteries are the most recycled product in the USA!**
Far higher than aluminum cans (55%) or paper (70%).

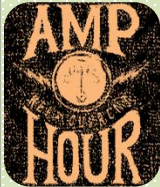


Answer to question from last issue:

Do I need a special charger for AGM batteries...like the Hawker® brand?

Not necessarily. Here's some background: Electrolyte in a lead-acid battery is comprised of water and sulfuric acid. **During charging, electrolysis occurs which creates gasses** (hydrogen and oxygen). Since **AGM batteries are "recombination" batteries, the vast majority of those gasses are recombined back into water.** As such, under normal conditions AGM batteries negligibly off-gas hydrogen or oxygen. However, **flooded-cell batteries are not recombination batteries...they are designed to freely off-gas.** Indeed, it's the off-gassing of hydrogen and oxygen that requires the user to monitor the electrolyte...and before the tips of the lead plates are exposed, the user must add distilled water (H₂O). **Here's the answer:** Since higher charging voltages cause increased gassing (perhaps at a higher rate than can be recombined), **when charging AGM batteries that are at or above 40° F (4° C), the charger's output voltage should not exceed more than 15-volts DC (VDC) when charging a single 12-volt battery, nor more that 30VDC when charging batteries in either a 24-volt series or 24-volt series-parallel configuration.** Otherwise, the AGM battery is more likely to off-gas and potentially dry out. **So, how do you know if your charger is safe for use with AGM batteries?** Simple, check the owner's manual, contact the manufacturer, or test the output voltage with a DC voltmeter or multimeter. If the charger has low, medium, and high settings...be sure to check each setting, since higher charge settings may have higher voltage outputs. **For any setting where the output voltage exceeds the limits above, do not use that setting when charging AGM batteries.** *And...now you know!*

Did you know:



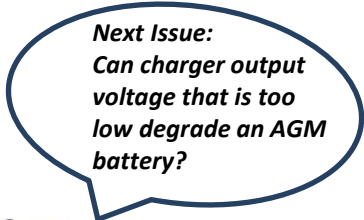
that an **Amp-hour (Ah, or ampere-hour)** is equal to providing **1 amp of current for 1 hour.** For example, a 500mAh battery can provide a constant 500 milliamps of current for 1 hour. **Check this out...a fully charged Hawker® ARMASAFE™ Plus battery is able to provide 80.7 Ah (at the C1 rate)...meaning a constant 80.7 amps of current for 1 hour.** Moreover, at a C20 rate, the same **Hawker® ARMASAFE™ Plus can provide a constant 6 amps for 20 hours...that's 120Ah!**

Training: Free Battery Maintenance & Recovery Training...

it's yours for the taking (psst...all you have to do is contact us.)

Curious who's been trained lately or where we're headed next? It's not a secret...find out here:

<https://hawkerbattery.com/events/>



Next Issue:
Can charger output voltage that is too low degrade an AGM battery?

Questions?

Visit our website at www.hawkerbattery.com

Call us at **877.485.1472**



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